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ABSTRACT

These guidelines provide standards for evaluators to estimate the quality of courses being considered for use in the Individualized Learning Center at Bell Telephone Laboratories. There are three parts. Part I guides the course evaluator through the evaluation of course materials, including course design and structure implementation. Part II is a technical evaluation of the subject matter for accuracy and adequacy. Part III proposes a general guideline for a course tryout, with feedback analysis and revision recommendations. (Author/CS).

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INDIVIDUALIZED LEARNING COURSE EVALUATION GUIDELINES

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SE 033 181

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Foreword

About the Development of these Guidelines

When the Systems Training Department began its existence in early 1968, almost all courses had to be developed by department personnel. This was true both for group-paced and individualized courses. Courses were developed systematically with the process following these steps:

- Conduct job study
- Prepare tests and objectives
- Devise instructional strategies; develop materials and procedures
- Conduct try-out and revision

Thus the relevance of courses was assured as was a relatively high quality. But an important disadvantage of such a procedure is that it is quite time-consuming and expensive. Working as the department is in a developing and expanding technology, it was impossible for it to keep up with the demand for changed and added offerings.

In the mid-70s, relief appeared to be in the offing when vendors began offering for sale or rent a number of apparently acceptable individualized courses. The department acquired a number of such courses and put them to use. It soon became apparent that "you can't tell by lookin" or by listening to a salesman about the quality of such offerings.

EDITOR S INTRODUCTION

The Continuing Professional Development Division of the American Society for Engineering Education is indebted to the authors as well as AT & T Corporation for allowing us to publish these guidelines on Individualized Learning Course Evaluation. The CPD Division has long been interested in providing to its members information on "how to" techniques to improve their job productivity and efficiency.

These guidelines have been extensively field tested by the authors to prove their effectiveness. They are presented in this format so that they can be easily dichotomized and applied. The CPD Division takes this opportunity to thank H. O. Holt, a member of the Division, who diligently pursued the possibility of making these guidelines available to the public.

J. M. Biedenbach
Chairman, CPD
Publications Committee

An early attempt at course evaluation involved assigning a staff member to take a course and then write an "evaluation". But then when another staff member took the same course and wrote an evaluation, it tended to be different from the first evaluation - sometimes drastically so. (This, of course, is the familiar problem of low inter-rater reliability.)

It became apparent to department personnel that a tool or performance aid was needed which both would reduce evaluator variability and make the process less time-consuming. (After all, having a staff member spend three weeks going through a course and then render an unreliable evaluation is not a particularly efficient process.)

The two authors of these Guidelines, therefore, undertook the assignment to develop the needed tool. First they collected written evaluations and talked with persons who had performed evaluations. A number of themes emerged. Then they examined in detail a number of individualized courses which clearly were of good quality, in an attempt to determine what made for success. They examined the AT&T Training Development Standards to obtain the attributes of a good course, and then looked back at the successful courses to see how well they reflected those attributes.

The above exercise yielded three essential characteristics of an individualized course which has a high level of instructional effectiveness:

1. A complete set of behavioral objectives
2. A set of student exercises which contribute to attainment of the objectives.
3. Active student involvement throughout.

The "content" of the course had to be technically competent and correct, as well as be relevant to the work needs of the target population. It became clear at an early point that vendor courses had a much higher probability of being technically competent than of being instructionally effective. This is why most early work on the Guidelines went into the instructional area. Also, that is why the instructional evaluation comes first in the Guidelines. There is no point in spending person-power evaluating the technical content if the course does an ineffective job of teaching.

The first version of the Guidelines, which went into use in 1975, was a list of questions to be answered about the course. Use of these questions made the evaluation process both more reliable and more efficient. It was fairly obvious, however, that the guidelines tended to be somewhat "personalized," i.e., while they were quite easily used by the authors and a few other people, they tended to be rather puzzling and 'jargonny" to "outsiders."

In 1976 Howard Shelton of Sandia Laboratories and ASEE visited the System Training Department and was exposed to the Guidelines. He was impressed with them and urged that they be expanded so that they would be of use to a wider group. In due time his suggestion was followed and the present version emerged.

H. O. Holt
Consulting Director
BTL

INDIVIDUALIZED LEARNING-CENTER (ILC)
COURSE EVALUATION GUIDELINES

COURSE NAME _____

Bell Telephone Laboratories

Systems Training Department

Area 90

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PREFACE

Only a few years ago most data systems education was provided by hardware and software manufacturers. Typically this consisted of lectures given by manufacturers' representatives in their particular field of expertise.

All that has changed.

Today, many organizations specialize in developing and selling data systems courses. Many offer highly sophisticated multimedia products. However, as in all fields, some courses are better than others. The problem for prospective customers is how to select the best course.

Bell Telephone Laboratories operates an Individualized Learning Center (ILC) in which many data systems courses are offered. Most courses are purchased from vendors. Early in the operation of the learning center, it became evident that a systematic course evaluation method was required if the best courses were to be selected.

The specific problem encountered was that those responsible for course selection had no common standard against which to measure a course's effectiveness, either in terms of subject matter or instructional technology. In cases where weaknesses were recognized, the lack of standards resulted in a hodge-podge of recommendations for corrective action. In addition, no systematized evaluation document existed.

To alleviate these problems, we developed the *Individualized Learning-Center (ILC) Course Evaluation Guidelines.* These evaluation guidelines provide standards for evaluators to estimate the quality of courses being considered for use in the ILC.

The guidelines have three parts:

Part I – Evaluation of the course materials, including course design and structure implementation.

Part II – Technical evaluation of the subject matter: accuracy and adequacy.

Part III – Course tryout, feedback analysis, and revision recommendations.

Parts I and II guide the course evaluator through the course materials by sets of questions. Answers to each question have numerical values that reflect their relative importance. The evaluator records conclusions on a summary score and recommendation page. Evaluators are ILC staff members, course developers, or instructional technologists. If the subject matter of a vendor course is unfamiliar to an evaluator, a subject-matter expert must complete Part II.

An understanding of the difference between course objectives and student objectives is important in answering some of the questions. An appendix is included to acquaint evaluators with this distinction.

Parts I and II are designed to identify quickly those courses that are clearly inadequate or need major redesign. Those courses that survive become the subjects of the guidelines in Part III.

Part III proposes a general guideline for a course tryout. It contains general comments that should be assimilated into a customized tryout plan for the course under consideration.

Barbara T. Bauer
Robert L. Everett
Bell Telephone Laboratories
June 1977

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HOW TO USE THIS GUIDE

This guide provides a quick, standardized procedure for evaluating individualized courses and reporting conclusions. The guidelines are divided into three parts: Part I, "Course Design Evaluation"; Part II, "Subject-Matter Evaluation"; and Part III, "Course Tryout Procedures."

Part I should be evaluated by an ILC course manager or an instructional technologist. The course evaluator investigates the instructional design of the course for the following five sections:

A. Course Objectives and Testing

B. Unit or Module Objectives and Testing

C. Media

D. Administrative and Developmental Information

E. General Course Characteristics.

The evaluator unfamiliar with objectives should read the description and examples in Appendix A.

Part II must be evaluated by a subject-matter expert. The questions in Part II guide the evaluator through an investigation of the accuracy and adequacy of the course content. Part II has two sections:

A. Overview of Course Content

B. Detailed Review of Selected Units.

While reviewing a unit, the evaluator completes an Error/Modification List for the unit. Appendix B contains samples of how this list should be filled out.

Complete familiarity with the course is not necessary to answer the questions in Parts I and II. The Guidelines are designed to save an evaluator time in reviewing courses.

Parts I and II are completed by answering each question with a check mark in the appropriate answer field: "yes," "no," "partially or unclear." Use only the answer fields available. For example:

	Yes	No	Partially or Unclear
8. Read the definitions of several terms. Are the definitions correct?	____	____	✓
	(8)	(0)	(4)

This answer indicates that several of the terms read were incorrectly defined or that the definitions could be improved. The point score is 4. If "Yes" is checked, the point score is 8; if "No" is checked, the point score is 0. A "yes" would indicate that all the definitions were correct; a "no" would indicate that all the definitions were incorrect or could be improved.

Use the space under each question to describe problems requiring modification. Rely on your first impressions to answer the questions. Do not try to modify the point scores.

It is generally more efficient to read the question first, then search the course materials for the specified characteristic.

All questions must be answered, even though answers to previous questions make answering subsequent questions seem unnecessary. For example, if a course has no objectives, subsequent questions about the characteristics of the objectives should still be answered, and the point score should be totalled. Otherwise, there is no basis for comparing courses.

Part III guides a team through developing and using a course tryout plan. The functions performed by the team are those of a course tryout administrator, a course manager, an instructional technologist, and a subject-matter expert. The tryout team may be one individual performing all functions or a group of individuals, each performing a single function. The team writes a course tryout plan, conducts the tryout, and evaluates the results.

Recommendations concerning the course tryout depend on the need for the course, the availability of alternative courses, and the score. There is no "passing" or "failing" point score. As a rule of thumb, a score of less than 150 of the possible 220 Part I points or less than 135 of the possible 200 Part II points should raise serious doubts about the quality of the course. In addition, low or zero scores for Sections A and B of Part I usually indicate that courses have serious instructional problems. A recommendation for any such course depends on the availability of better courses and/or the work required to modify the course.

To prepare for using these Evaluation Guidelines, the evaluator should:

1. Read the general instructions in this section.

2. Have all course materials available, such as student text, instructor's guide, videotapes, and audiotapes.

3. Read the specific instructions that precede each part before beginning the evaluation.

PART I
COURSE DESIGN EVALUATION

Overview

Before answering questions in Part I, review the information on objectives in Appendix A. Examples of good objectives are included. The course and unit objectives are course characteristics of primary concern. If objectives are inadequate or missing, the course is usually instructionally ineffective.

Instructions

To evaluate the course design, answer each question by placing a check in the "yes," "no," or "partially or unclear" field. Each field has a point score under it. After you answer all the questions for one section, sum the scores and write the total at the end of the section. Space is provided for comments under each question. Information should be included here that would help in modifying the course or in explaining a particular answer. Then continue to the next section. After completing Sections A to E, transcribe all the scores and comments to the Evaluation Summary sheet on pages 33-34.

PART I

COURSE DESIGN

	Yes	No	Partially or Unclear
Section A. Course Objectives and Testing			
1. Are course objectives presented to the student at the beginning of the course?	(10)	(0)	(5)
How many course objectives are stated?	_____		
2. Do the course objectives state what the student will be able to do upon completion of the course?	(10)	(0)	(5)
3. Do the student materials specify how the student will know if he or she has met the objectives?	(10)	(0)	(5)

	Yes	No	Partially or Unclear
4. When the course concludes, have all objectives been tested?	(10)	(0)	(5)
5. Are course objectives and measurement criteria presented in written form in student materials?	(10)	(0)	(5)

Total Points Earned - Course Objectives and Testing: _____

Course Objectives and Testing Comments.

	Yes	No	Partially or Unclear
Section B. Unit or Module Objectives and Testing			
1. Does each unit or module state the objectives or inform the student of the important points to look for?	(15)	(0)	(10)
2. Are these objectives in the same sequence as they occur in the instruction?	(5)	(0)	(3)
3. Are unit or module objectives presented in written form in student materials?	(10)	(0)	(5)
4. Does each unit or module provide tests, exercises, or some other way of measuring student achievement of objectives?	(20)	(0)	(10)

Total Points Earned - Unit or Module Objectives and Testing: _____

Unit or Module Objectives and Testing Comments.

	Yes	No	Partially or Unclear	Not Applicable
Section C. Media				
Check "Not Applicable" if the course does not include the particular media being questioned.				
1. Do the audio, video, graphics, or slides relate closely to the course objectives? (Do they support the objectives of the course or just entertain?)	(10)	(0)	(5)	(10)
2. Are the visual portions (slides, graphics, video) clear, attractive, and understandable?	(5)	(0)	(3)	(5)
3. Is the audio intelligible?	(4)	(0)	(2)	(4)

	Yes	No	Partially or Unclear	Not Applicable
4. Does the audiovisual presentation logically coordinate with other course materials?	(7)	(0)	(4)	(7)

The following are possible positive contributions to consider:

Does it supplement or reinforce the text?

Does it introduce new subject matter?

Does it use animation where static figures would be inadequate?

Does it provide a change of pace?

Does it guide the student through text exercises?

5. Do the narrator's personality, appearance, and voice detract from the effectiveness of the course?	(0)	(4)	(2)	(4)

Total Points Earned - Media: _____

Media Comments.

	Yes	No	Partially or Unclear
Section D. Administrative and Developmental Information			
1. Is an Administrator's Guide part of the course package?	(3)	(0)	(1)
2. Does the following information appear somewhere in the Administrator's Guide or course materials? In the space following each item, indicate by page number or media title where this information appears.			
a. The reason the course was developed (What need did the authors see?), the course description, and course length	(4)	(0)	(2)
b. The developmental objectives (These were used in writing the course. What behavior were the authors trying to initiate? These objectives will help if course modifications are to be made.)	(4)	(0)	(2)

	Yes	No	Partially or Unclear
c. Evaluation results of the course from the vendor or course developer (Was the course validated? What were the results?)	(4)	(0)	(2)
d. The average time required for students to complete the course	(3)	(0)	(1)
e. The course organization and suggested strategy for presentation (Sequence of events, administrator's responsibilities, etc.)	(4)	(0)	(2)
f. A statement of minimum qualifications and course prerequisites (If you answer "no," please state your suppositions about the student population.)	(4)	(0)	(2)

	Yes	No	Partially or Unclear
g. The qualifications required for a course administrator and the preparation needed for the course	(4)	(0)	(2)
h. A reasonable instructor/trainee ratio	(3)	(0)	(2)
i. The facilities, equipment, and materials required to administer the course	(4)	(0)	(2)

	Yes	No	Partially or Unclear	Not Applicable
j. The materials that could or should be developed or modified locally by the administrator or under his/her direction	(4)	(0)	(2)	(4)
k. What materials are to be ordered separately (if any) and how to obtain them	(3)	(0)	(2)	(3)
l. Exercises, case problems, unit tests, and final tests and answers that require administrator activities	(4)	(0)	(2)	

	Yes	No	Partially or Unclear
m. How to obtain course feedback from students	(2)	(0)	(1)

(How did the students feel about the course relevancy, materials, ease of learning, instructor's effectiveness, etc.)

Total Points Earned - Administrative and Developmental: _____

Administrative and Developmental Comments.

	Yes	No	Partially or Unclear
Section E. General Course Characteristics			
1. Is the student given an overview of the entire course before the first lesson?	(6)	(0)	(3)
2. Does the student receive feedback after tests, exercises, etc.?	(8)	(0)	(4)
3. Is feedback keyed to appropriate parts of textual material so that students may easily return to the proper section for remedial work?	(4)	(0)	(2)

	Yes	No	Partially or Unclear
4. Is the course learner-centered? (i.e., does it require the student to interact frequently with the course materials by answering questions, participating in exercises, case work, etc.)	(8)	(0)	(4)
5. Is there a reasonable balance between "explaining, exercising and evaluating"? (Rule of thumb: "exercising" and "evaluating" for every five minutes of "explaining")	(2)	(0)	(1)
6. Are all instructions and test items clear?	(4)	(0)	(2)

	Yes	No	Partially or Unclear	Not Applicable
7. Is the organization of physical course materials simple and direct? (Or must the student frequently skip from one piece of material to another and back again?)	(4)	(0)	(2)	
8. Are training or performance aids used to minimize the need for training in background subjects? (e.g., provide a hexadecimal-decimal conversion table rather than train students how to make such conversions.)	(4)	(0)	(2)	(4)

Total Points Earned - General Course Characteristics _____

General Course Characteristics Comments.

Section F. Other Instructional Design Characteristics

Include here comments about any other instructional design characteristics that you believe pertinent to the evaluation of this course.

Transcribe all point scores and comments for Part I to the Evaluation Summary form (pages 33-34).

PART II
SUBJECT-MATTER EVALUATION

Overview

To complete Part II, "Subject-Matter Evaluation," investigate and document the course's subject matter. Section A, "Overview of Course Content," includes general questions about the technical content and organization of the course. Section B, "Detailed Review of Selected Units," requires you to review one or more units, list errors or problems in the units, and answer questions about the units.

Instructions

Section A: Overview of Course Content

All student and administrative course materials should be available. First, read the course description, course objectives, course prerequisites, and Table of Contents. Also, refer to the Course Administrator's Guide if it contains subject-matter information. Then answer the Section A questions on Course Objectives, Course Structure, Glossary, Bibliography, and Local Environment. Use the space following each question to record comments. Record the total points and comments on the Evaluation Summary sheet on pages 33-34.

	Yes	No	Partially or Unclear
Section A. Overview of Course Content			
Course Objectives			
1. Does the subject matter described by the course objectives match the course description and intended student population?*	(10)	(0)	(5)
List inconsistent objectives.			
2. Based on the course description and intended student population,* are the course objectives complete?	(10)	(0)	(5)
List missing objectives.			

*(*See Part I, Section D-2-f.* If you answer "no," please state your suppositions about the student population.)

	Yes	No	Partially or Unclear
Course Objectives (contd)			
3. Do all the objectives belong in the course?	(8)	(0)	(4)
List irrelevant objectives.			
Course Structure			
4. Does the Table of Contents include all the major topics required to cover the course material?	(10)	(0)	(5)
List omitted topics.			
5. Are the topics in the Table of Contents appropriate to the course intent?	(10)	(0)	(5)
List inappropriate topics.			

	Yes	No	Partially or Unclear
Course Structure (contd)			
6. Does the sequence of topics appropriately develop the main concepts of the course?	(10)	(0)	(5)
If not, what should the sequence be?			
Glossary			
7. Is there a glossary?	(6)	(0)	(3)
8. Read the definitions of several terms. Are the definitions correct?	(8)	(0)	(4)
List terms incorrectly defined.			

If you are evaluating a course that does not deal with programming languages or computer systems, omit this page, but include 10 points in the point score. Otherwise, review the topics listed below. In the OMITTED column, check items that were omitted from the course, but should be included. In the column labeled UNNECESSARY, check the topics that do not belong in the course, but have been included.

PROGRAMMING LANGUAGES	OMITTED	UNNECESSARY
Instruction Set (commands)	___	___
Relevant Instruction Subsets	___	___
Coding Format	___	___
Character Set	___	___
Data Definition	___	___
I/O	___	___
Program Structure (e.g., COBOL's divisions)	___	___
Job Control Language	___	___
Subprogramming, Subroutines	___	___
Macros	___	___
Grammatical Rules	___	___
Purpose of Language	___	___
Debugging Aids	___	___
Inclusion of System Libraries or Files	___	___
Other (please specify)	___	___

COMPUTER SYSTEMS	OMITTED	UNNECESSARY
Hardware Configuration	___	___
Software Components (operating systems, programming languages, application programs, utilities, file management systems)	___	___
Microprogramming	___	___
Terminal Devices	___	___
Programming Modes (time-sharing, batch programming, real-time)	___	___
Memory System (addressing, type, size, speed, virtual capability)	___	___
System Generation	___	___
Communication Links	___	___
I/O Processors	___	___
Operator Instructions	___	___
User Considerations	___	___
Other (please specify)	___	___

Total the number of checks and subtract from 10 to obtain the score. If there are more than 10 checks, the score is 0.

Total_____

	Yes	No	Partially or Unclear
Bibliography			
9. Is there a bibliography? (e.g., reference manuals and supplementary readings)	(8)	(0)	(4)
List additional recommended reference materials.			
Local Environment			
10. Are course modifications required because special equipment or applications are used in the local environment? (e.g., BIS-COBOL vs. ANS COBOL)	(0)	(10)	(5)
List any modifications required.			

Total Points Earned - Overview of Content _____.

Section B: Detailed Review of Selected Units

Investigate the subject matter of one or more units in detail. A rule of thumb is: Investigate one unit for every 6 to 8 hours of course duration. For the units you select, read and view the student materials, follow the unit instructions, and complete all unit examples and exercises. Observe the accuracy of figures, diagrams, definitions, procedures, and computer listings. As you use the instructional materials, list all errors or suggested modifications on the Error/Modification List on page 26. Appendix B shows a completed sample Error/Modification List. If the course is selected for student use, this list will be used to modify the course. You should be as specific as possible, so as to make the later course revision easier.

ERROR/MODIFICATION LIST FOR DETAILED UNIT REVIEW.

Course: _____

Unit: _____

Evaluator: _____

Date: _____

Page Number (or film or tape)	ERROR/MODIFICATION REQUIRED

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	Yes	No	Partially or Unclear	Not Applicable
Section B. Detailed Review of Selected Units				
1. Do the unit objectives adequately cover the unit topics?	(6)	(0)	(3)	
List missing objectives.				
2. Do the unit materials explain, exercise, and test each relevant objective?	(6)	(0)	(1)	(0)
List objectives not covered.				
3. Is there substantial material in the unit that is not included in unit objectives?	(0)	(5)	(2)	
List topics that should have unit objectives.				

	Yes	No	Partially or Unclear
4. Are there unnecessary unit objectives?	(0)	(5)	(3)
List unnecessary objectives.			
5. Given the course prerequisites, is the technical vocabulary in the unit appropriate?	(4)	(0)	(2)
What use of vocabulary is inappropriate?			
6. Are all new terms in the unit defined in the glossary?	(4)	(0)	(2)
What terms are not defined?			

	Yes	No	Partially or Unclear
7. Within this unit, are the topics arranged logically?	(10)	(0)	(5)

What topics are out of sequence?

8. List incorrect figures, tables, computer listings, or examples. Subtract the number of items listed below from 10 to obtain the score. _____.

9. List incorrect exercises or test items. Subtract the number of items listed below from 10 to obtain the score. _____.

	Yes	No	Partially or Unclear
10. Is there unnecessary instruction where reference materials would be preferable?	(0)	(6)	(3)
11. Do tests measure what is most important for the student to know?	(10)	(0)	(5)
What additional test items should be included?			
12. Are there modifications due to special equipment or applications required for your students?	(0)	(6)	(3)
List these modifications.			

	Yes	No	Partially or Unclear
13. Is the course organized so that students with varying experience levels can start the course at different points?	(6)	(0)	(3)
14. Is the subject matter consistent with the local environment?	(6)	(0)	(3)
15. Is the subject matter up-to-date?	(6)	(0)	(3)

Total Points - Unit Review:________________________________.

Transcribe all point scores and comments for Part II to the Evaluation Summary (pages 33-34).

ILC COURSE EVALUATION GUIDELINES

EVALUATION SUMMARY

COURSE NAME: _____

COURSE CATALOG NUMBER: _____ COURSE VENDOR: _____

EVALUATING COMPANY: _____ TEL. NO.: _____

PART I COURSE DESIGN SUMMARY

COURSE EVALUATOR: _____ DATE OF EVALUATION: _____

SECTION	POSSIBLE POINTS	EARNED POINTS
A. Course Objectives and Testing	50	
B. Unit or Module Objectives and Testing	50	
C. Media	30	
D. Administrative and Developmental Information	50	
E. General Characteristics	40	
Part I Point Score	220	

PART II SUBJECT-MATTER EVALUATION SUMMARY

COURSE EVALUATOR: _____ DATE OF EVALUATION: _____

SECTION	POSSIBLE POINTS	EARNED POINTS
A. Overview of Content	100	
B. Detailed Review of Selected Units	100	
Part II Point Score	200	
Total Point Score	420	

Use back for additional comments.

Comments and Recommendations:

Part I.

Part II.

Is a course tryout recommended?

PART III
COURSE TRYOUT PROCEDURES

If a course tryout is recommended after Part I and Part II are completed, then Part III, "Course Tryout Procedures," should be used to develop and implement a customized tryout plan. The tryout determines from students how well the course satisfies their needs and, assuming it does meet students' needs, verifies the course evaluation result.

The procedures for the course tryout are presented in three sections:

A. Write a Course Tryout Plan

B. Implement the Tryout Plan

C. Evaluate and Report Tryout Results.

The ILC administrator appoints people to staff the following functions necessary to a course tryout:

Course Tryout Administrator – formulates the course tryout plan, conducts the tryout, and reports on the result. Typically, the course tryout administrator is the course developer or an ILC course manager.

Course Manager – assists students with problems during the course tryout.

Instructional Technologist – observes interactions between each tryout student and the course manager and debriefs each student to identify and record instructional strategy problems.

Subject-Matter Expert – observes the interactions between each tryout student and the course manager and interviews each student to determine problems with the technical accuracy of the course.

Course Developer or Vendor (optional) – participates in tryout to document (for future modification) course problems identified by observers and course managers.

Each of the above functions may be performed by different individuals or several functions may be the responsibility of one individual. The cost of staffing each function individually must be weighed against the benefit of increased observer objectivity and feedback variety.

NOTE – When observers are referred to herein, the reference is to the tryout observation that is part of the instructional technologist, subject-matter expert, and course-developer functions.

A. Write a Course Tryout Plan

Since individualized courses vary widely in design and content, some elements of a tryout plan may be more suitable than others for the specific tryout. The amount of tryout data required depends on the expected size of the course, the number of students to be trained, and the documentation required by a revision team. Information that is specific to the course tryout plan being developed should be documented for each of the elements selected. A brief description of each element follows:

1. Purpose. State the purpose for conducting the tryout. For example, a tryout may be used to verify that the course evaluation results are correct or to determine that the training satisfies student needs.

2. Facility. Specify requirements for carrel space, classroom space, and audiovisual equipment.

3. Schedule. Specify dates for the start and end of the tryout, for analyzing and reporting tryout results, and for meetings required to organize tryout personnel.

4. Students. Specify the number and background of tryout students. These students should meet but not exceed training and experience prerequisites. However, a subject-matter expert who exceeds prerequisites may be included to obtain feedback on technical accuracy and adequacy. Motivate tryout students' supervisors to emphasize the need for student cooperation during a tryout. The following attributes should be included to describe tryout students:

   a. Education level

   b. Job needs

   c. Prerequisite job experience and training

   d. Previous training and related job experience that are not prerequisites

   e. Representation in EEO-protected groups.

5. Course Manager. Specify the experience and time requirements for course managers. Allow time for managers to review and prepare for the course. Provide or prepare forms for managers to record comments and recommendations during the course.

6. Testing. The course effectiveness should be measured by an end-of-course test or some other criterion test.

Job-like case problems are often used as performance criteria. Case problem solutions should include evaluation criteria.

Investigate pretests and posttests, if supplied. Supplement tests, if required.

7. Student Feedback. Specify plans to obtain information on:

   a. Student attitudes toward the course

   b. Student problems

   c. Good elements of the course.

   Include questionnaires, attitude scales, and interview procedures. If possible, students should be encouraged to write comments directly in the course materials.

8. Observers. Describe a systematic method for instructional and subject-matter observers to record problems and revision requirements. This is a purposeful, preplanned observation and recording of manager, observer, and student interactions during discussions and debriefings. Record problems, causes, and necessary revisions. One ILC staff member can administer, manage, and observe the tryout if feedback quantity and variety can be forfeited. Observers conduct debriefing sessions with students.

9. Materials. Specify how course materials are to be obtained and distributed. Be sure all participants, including observers, have appropriate materials.

10. Course developer or vendor. Invite the appropriate vendor representative or course developer to observe (optional).

B. Implement the Tryout Plan

1. Tryout introduction – The course tryout administrator should inform students about the nature of a tryout. He or she should include the:

   a. Status of course development and materials

   b. Status of the technology being taught

   c. Student's role in the tryout

   d. Personnel functions and their responsibilities

e. Use of taped interviews

f. Importance of student feedback.

The course tryout administrator also arranges a debriefing interview schedule with the tryout student. The observers should conduct debriefing interviews after every two or three hours of ILC instruction.

2. Course introduction – The course manager should provide the student with course materials and feedback forms. Proper operation of the equipment should be demonstrated. The manager should emphasize that all errors should be recorded. A student should be encouraged to discuss any problems with the course manager.

3. Debriefing interviews – The observers should write or record on audiotape or videotape the student debriefing discussions. Include questions about:

a. Instructional strategy

(1) Does the course require active student participation?

(2) Is the learning activity suited to the topic?

(3) Is the sequence of topics appropriate by course, unit, and topic?

(4) Are the unit or module objectives clear? Is the instruction sufficient to satisfy the objectives?

(5) Are any topics difficult to learn?

(6) Are any topics boring?

(7) Are any topics frustrating?

(8) Is more information needed? Where?

(9) Should any visuals be added to or deleted from the course materials?

(10) Are exercises and tests appropriate to objectives and course materials?

(11) Are any exercise or test questions unfair?

(12) Is there sufficient instruction to support the concepts?

b. Subject Matter

(1) Do topics support objectives?

(2) Do topics occur in appropriate order?

(3) Is the level of detail appropriate for topics?

(4) Are any concepts illogical?

(5) Are any topics introduced without sufficient preparation?

(6) Are there errors in text, graphics, audiotapes, or videotapes?

(7) Do quizzes and exercises measure understanding of subject matter?

(8) Do quizzes and exercises cover objectives?

4. Feedback Questionnaire – At the end of the course, ask each student to complete a Feedback Questionnaire and return it to the tryout administrator.

C. Evaluate and Report Tryout Results

1. Evaluate data

After the course, the tryout administrator should accumulate data from:

a. Debriefing interviews

b. Course comment sheets

c. Feedback questionnaires

d. Student and observer comments in course materials

e. Audiotapes and videotapes of tryout, if any

f. Quizzes, exercises, tests, case study results.

2. Report recommendations

The data should be analyzed, and a brief tryout report should be prepared. A course tryout summary sheet should be attached *(See page 41/42.)* On the Course Tryout Summary, the Student Profile should include the number of students, a brief description of their adherence to the typical profile, and student performance on objectives or criterion test. Any problem areas checked on the tryout summary sheet should be described in the report, and possible modifications should be suggested. The basis for the

recommendation selected should be included. If a revision is recommended, the course tryout report will be used as input to the revision process. Raw data summarized in the report may be required for revisions and should be filed for future reference.

COURSE TRYOUT SUMMARY

Course: _____ Course Length: _____

Vendor: _____ Date: _____

Student Profile:
(If more space is needed, please attach a separate page.)

Problem Summary:

Check the following applicable problem areas. Please attach a page to explain these problems.

- ☐ NEGATIVE TRAINEE REACTION
- ☐ INADEQUATE SUBJECT MATTER (ERROR, OMISSION, or IRRELEVANCY)
- ☐ INADEQUATE INSTRUCTIONAL STRATEGY

Recommendation:

- ☐ RETURN TO VENDOR
- ☐ IMPLEMENT UNCHANGED
- ☐ RE VISE . ____ PERSONWEEKS REQUIRED.

_____
TRYOUT ADMINISTRATOR

APPENDIX A

OBJECTIVES

Course objectives are given to the student at the beginning of the course. Within each unit, unit objectives are presented to the student. To improve student performance, the objectives must be specific and numerous enough to engage the student continuously in the search process for relevant instructional material. For unit objectives, a simple statement of what the student should learn will suffice. For example, "You should learn the numerical values for the four color-coded wires." The list of objectives must be written in the same sequence as they occur in the course materials.

Following are examples of course and unit objectives from the ASI COBOL course.

EXAMPLE OF
OVERALL COURSE OBJECTIVES

When you've successfully completed this course, you'll be able to:

- List the rules for forming each of the following:

  Literals
  Data-names
  External-names
  System-names
  Section-names
  Paragraph-names
  File-names
  Record-names
  Qualified Names
  Condition-names

- Write an Identification Division containing all required and optional entries.

- Write an Environment Division, Configuration Section, for a program which creates reports from sequential file input.

- Write an Environment Division, Input-Output Section, containing the following entires:

  SELECT Clauses,
  ASSIGN Clauses,
  RESERVE Clauses,
  RERUN Clauses,
  SAME AREA Clauses.

- Write a Data Division, File Section, describing the characteristics of a sequential file and its records, including such elements as:

  PICTURE Clauses,
  REDEFINES Clauses,
  RENAMES Clauses,
  JUSTIFIED Clause,
  FILLER.

EXAMPLE OF UNIT OBJECTIVES

UNIT ONE

INTRODUCTION

In this unit we will briefly discuss the history of the development of the COBOL programming language and the conditions leading to the ANS version of COBOL. We will then reveal the overall structure and purpose of an ANS COBOL program and provide a general course overview. In addition we will cover some basic "nuts and bolts" topics concerning the coding form, its usage, and the format notation used to define the elements of the COBOL language.

When you have successfully completed unit one, you'll be able to:

- Explain why COBOL was developed.
- Write the words whose acronym is ANS COBOL.
- Explain what an ANS COBOL language extension is.
- Describe the overall structure of an ANS COBOL program.
- Explain the purpose of each of the four divisions of an ANS COBOL program.
- Explain the purpose of each of these parts of the ANS COBOL coding form:

  Heading
  Page Number
  Identification
  Line Numbers
  Continuation Column (Column 7)
  A Area
  B Area

- Explain the purpose of each of these symbols in the ANS COBOL metalanguage:

  Underlining
  Brackets
  Capitalized Words
  Lower-case Words
  Ellipses

APPENDIX B

SAMPLE ERROR/MODIFICATION LIST

Section B: Detailed Review of Selected Units

INSTRUCTIONS

Use this section to investigate the subject matter of a unit in detail. Read or view the unit, follow all instructions, and complete all examples and exercises. Also, check the accuracy of figures, diagrams, definitions, procedures, and computer listings. As you use the instructional materials, list errors or suggest modifications on this page. If the course is selected for use in the ILC, this list will be used to modify the course. Please be as specific as possible. Then answer the questions.

ERROR/MODIFICATION LIST FOR DETAILED UNIT REVIEW.

Course: 145 Overview

Unit: Module 2

Reviewer: B. J. Bauer

Date: May, 1976

Page Number (or film or tape)	ERROR/MODIFICATION REQUIRED
2-1	These are goals or directions, not objectives.
2-3	Each learning activity should have a time estimate: Video 2, 10 minutes, Video 3, 10 minutes
2-7	In the 4th and 5th lines from bottom, interchange words "2nd" and "3rd."
2-29	1st sentence of second paragraph doesn't make sense.
2-27	In last line, "occurrence of parent" is more correct than "parent."